

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

C. 21. (currently amended) A prefabricated, rectangular, self-supporting, radiating panel (P) having two opposite long sides and two opposite short sides and having a sandwich structure formed by at least a layer of plasterboard (1) and a layer of heat-insulating material (2), said plasterboard layer (1) incorporating, internally, pipes (3) for a working fluid, end portions of said pipes emerging from a side of the panel, ~~said plasterboard layer (1) comprising a plurality of continuous there~~ being a plurality of said pipes (3) each housed in cavities arranged in a coiled outline on [[one]] the side of the plasterboard next to said heat-insulating material (2) and in adjacent modular zones (6) of the panel and each pipe forming an independent hydraulic circuit, said zones (6) being rectangular and having two opposite short sides and two opposite long sides parallel to said short sides of said panel, said zones (6) being separable from one another so as to provide panel parts of different sizes.

22. (currently amended) A radiating panel as claimed in claim 21, wherein [[said]] end portions (4) of each of said independent hydraulic circuits emerge laterally from the panel (P) along a said long side of the panel.

23. (previously presented) A radiating panel as in claim 21, wherein said zones (6) have all the same area and house all the same length of said pipe (3).

24. (previously presented) A radiating panel as claimed in claim 21, wherein lines (L) separating adjacent said zones are visible on an external surface of the panel (P).

25. (currently amended) A radiating panel as claimed in claim [[23]] 21, wherein the width of the heat insulating layer (2) of the panel is less than the width of the plasterboard (1) by an amount sufficient to allow said end portions (4) to emerge freely from the plasterboard layer (1) and allow direct fixing of the plasterboard panel (P) to supporting sections (9, 10).

26. (currently amended) A radiating panel as claimed in claim [[22]] 21, comprising moreover two top and bottom end zones (5), which are devoid of pipes (3) and insulating layer (2), for

housing lines (11) supplying a thermal carrier fluid to the panel (P).

27. (currently amended) A radiating panel as claimed in claim [[22]] 21, wherein said pipe (3) is a pipe made of plastic material.

28. (previously presented) A radiating panel as claimed in claim 22, wherein said pipe (3) is a pipe made of metallic material.

29. (previously presented) A radiating panel as claimed in claim 21, wherein said layers (1, 2) of the panel are fixed together by means of gluing.

30. (previously presented) A method for manufacturing a radiating panel comprising, during manufacture, the steps in succession of:

a) milling one or more cavities (7) on one side of a plasterboard panel (1);

b) inserting pipes (3) into said cavities (7); and

c) gluing directly onto the plasterboard on the abovementioned side of the panel a layer (2) of heat insulating material.

31. (previously presented) A method as claimed in claim 30, which further comprises, during manufacture, the following steps:

a1) forming said cavities (7) with a coiled arrangement, two ends of each coiled cavity opening at one and the same side of the panel (P);

b1) forming said pipes (3) as only one continuous pipe, said continuous pipe emerging from said side of the panel, as a free end at the bottom and the top of the panel and as a loop at the boundary between adjacent coiled cavities;

C₁
d) sealing said continuous pipe (3) inside said cavity using a heat-conducting sealing material.

32. (previously presented) A method as claimed in claim 31, which further comprises the step of:

e) cutting said continuous pipe (3) at the loops thereof connecting adjacent coiled cavities.

33. (previously presented): A method for manufacturing a radiating panel, comprising the steps of:

a) forming a plasterboard panel by inserting inside a gypsum core thereof one or more coiled pipes (3), end portions of said pipes emerging from one side of said panel; and

b) gluing onto one side of the core a layer (2) of heat insulating material.

34. (previously presented) A method for manufacturing a radiating panel, comprising the steps of:

a) forming a plasterboard panel by inserting inside a gypsum core of said panel only one continuous pipe (3), formed in more than one coils, said continuous pipe emerging from one side of the panel, as a free end at opposite ends of the panel and as a loop at the boundary between adjacent coils; and

b) gluing onto one side of the panel a layer (2) of heat insulating material.

35. (previously presented) A radiating wall formed by a plurality of panels as claimed in claim 21, wherein said panels (P) are arranged alongside one another such that pairs of neighboring panels (P) are adjacent along sides of the panels which do not have end portions (4) of the pipes (3) and instead are separated from one another, along sides of the panels provided with the said end portions (4), by a predetermined distance sufficient to allow the insertion, between the panels, of secondary headers (8) which are connected to said end portions (4).

36. (previously presented) A radiating wall as claimed in claim 35, which is fixed to pre-existing masonry walls or ceilings by means of interposed metal support sections with a square or U-shaped cross-section (9) along lines joining together adjacent panels and metal support sections with an Ω -shaped cross-section (10) along a strip joining together non-adjacent panels.

C-1
37. (previously presented) A radiating wall as claimed in claim 36, wherein said secondary headers (8) are housed in said metal sections with an Ω -shaped cross-section (10), where they are connected to said end portions (4) of the coiled pipes (3).

38. (previously presented) A radiating wall as claimed in claim 36, which also comprises main supply lines (11) for supplying thermal carrier fluid to said secondary headers (8), which are housed behind the panels (P) along strips 1f of said panels which do not have said heat insulating layer (5).

39. (previously presented) A radiating wall as claimed in claim 36, also comprising along said Ω -shaped metal sections, a plasterboard covering panel (C).

40. (previously presented) A radiating panel having sandwich structure formed by a layer of plasterboard, said plasterboard layer having a sinuous cavity in a side of said plasterboard layer, a sinuous pipe in said sinuous cavity, the pipe having ends that extend beyond ends of said sinuous cavity, and a layer of insulating material directly bonded to said layer of plasterboard on the same side of same layer of plasterboard as said sinuous cavity, said layer of insulating material closing said sinuous cavity.
